

REMARKS

Claims 1, 5, 12, 13-15, 23-25, 27, and 29 are amended.

Claims 4, 6-8, 16-19, 21-22, 26, 28, 31 and 32 are canceled.

Claim 2, 3, 9-11, 20, 30 and 33 are previously presented

Claims 35-48 are withdrawn.

The Examiner has rejected claim 1 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Breezer (U.S. Patent 5,635,129), Byma (U.S. Patent 6322658), Steward (U.S. Patent 4211590), Haardt (U.S. Patent 5,180,628), Timothy (U.S. Patent 5775726), and Juriga (U.S. Patent 5,549,776).

Claim 1 is currently amended to explicitly claim a thermoform process producing a covered unified part consisting of said compression molded covered first headliner part and said vacuum molded second headliner part. The compression molded covered first headliner part is formed by compression molding using matched half molds. Using matched half molds, a second half mold is substantially the mirror image of the first half, such that on molding, raised portions of the second half mold force material into the opposing recessed portions [cavities] of the first half mold. This process is in contrast vacuum molding, where material is drawn into the recessed portions [cavities] of the first half by creating a vacuum in the recessed portions, such that the ambient atmospheric pressure pushes on the material experiencing the vacuum. Vacuum and compression molding are in contrast to pressure molding, where no vacuum is created, but pressurized air is forced into the mold, and material not supported by the mold is forced into the recessed portions of the mold. Sometimes pressure molding is assisted by creating a vacuum in the recessed portions [cavities] of the mold. The vacuum increases the pressure differential the material is experiencing as the effective net pressure is the combination of the pressurized air plus the reduced effective ambient air pressure created by the vacuum. Holtrop (U.S. Patent 4,529,641) teaches in col. 4, line 63 – col. 5 line 5, that

“The preheated laminate is then inserted into a thermoformer where a source of pressured gas, for instance air, is connected to the blow pin and mold blocks close on to those portions of the laminate to be adhered between the two layers of foamed thermoplastic. The mold can shape the laminate into a three-dimensional shape which is hollow at certain locations within its periphery, as illustrated in the cross-sectional view of FIG. 2. In some instances it is also advantageous to apply vacuum to the mold cavities to assist in expanding non-adhered sections of the foamed thermoplastic.”

In Holtrop's process the heated layers are laminated when the blocks close, and then molded into a three-dimensional shape using pressurized air to shape the laminate, where the pressurized air splits and molds laminate at sections that are not being squeezed by the closed block. Holtrop also teaches that that the pressurized molding can be augmented with a vacuum. Applicant, in contrast to Holtrop, as claimed in claim 1 does not first laminate (adhered / fuse) the layers (the first headliner part and the second headliner part) and then create a three-dimensional shape which is hollow at certain locations. Applicant employs compression molding to form the first headliner part, where compression molding imparts the three-dimensional shape to the first sheet. Applicant employs vacuum molding to form the second headliner part, where vacuum molding imparts the three-dimensional shape to the second sheet. After molding then the first and second headliner parts are fused / adhered (laminated). Not only is the molding sequence different, but the molding processes are different. The sequence for each invention is not arbitrary. Holtrop can not apply pressure until the blocks are closed, and Applicant can't employ compression molding to the first head part and vacuum molding to the second headliner part when the blocks [half molds] are closed.

In the interview on November 8, 2005 and in the final August 24, 2005 final office action, Examiner pointed out that Juriga teaches compression molding. Applicant acknowledges that while Juriga does teach a method for compression molding, neither Holtrop nor Juriga, nor Holtrop in view of Juriga teach a method for combining a compression molded first headliner part with a vacuum molded second headliner part to make a unified part having an interior compartment. Holtrop creates the cavity after

closing the mold, and pressuring the cavities. Applicant creates the cavities by fusing pre-formed parts, where one is vacuum formed.

The Examiner has rejected claim 13 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Breezer (U.S. Patent 5,635,129), Byma (U.S. Patent 6322658), Steward (U.S. Patent 4211590), Haardt (U.S. Patent 5,180,628), Timothy (U.S. Patent 5775726), and Juriga (U.S. Patent 5,549,776)

Claim 13 is currently amended to be an independent claim that claims a thermoform process producing a reinforced covered unified part consisting of said compression molded covered first headliner part and said compression molded compression molded scrim reinforced second headliner part. As discussed for claim 1, Holtrop does not only teach a different molding sequence, but the molding processes are different. The sequence for each invention is not arbitrary. Holtrop can not apply pressure until the blocks are closed, and Applicant can't employ compression molding to the first head part and compression molding to the second headliner part when the blocks [half molds] are closed. Juriga teaches in col. 3, lines 10 – 29 the following:

“The method of forming the improved structurally stable, self-supporting laminate of this invention preferably includes forming the preferred laminae, including the finish lamina and the fiber reinforcing scrim laminae. A foamable material, such as a high density partially closed cell styrene-maleic anhydride copolymer, is preferably formed in situ. The laminae are laid in place in face-to-face relation with an adhesive, preferably the preferred adhesive web, placed between the laminae. The unbonded laminate is preheated in an oven containing radiant energy sources to at least the glass transition temperature of the adhesive web. In the oven, the foam expands to approximately twice its original thickness. The laminate is then quickly shuttled into a die, such as a contoured epoxy die used to form the configuration of a vehicle headliner, and formed into the desired configuration. Heat sensitive adhesives in the adhesive material bond the laminae. In the most preferred embodiment, the thermoformable adhesive web,

located between the finish lamina and the substrate lamina, and between the laminae forming the substrate lamina will bond the structure as described above to form a structurally stable, light-weight, self-supporting laminate.”

Among other differences between Applicant and Juriga, Juriga teaches that all the laminae are pre-heated prior to moving to the mold. Prior to compression molding, Applicant does not pre-heat either the cover-stock material that is laminated to the first sheet, nor the scrim reinforcement material that is laminated to the second sheet. Juriga’s process is complete, having formed a headliner. Applicant’s process requires another step to join the parts.

The Examiner has additionally rejected claims 2-7, 9-12, 14-16, 20, 23-25, 27, 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over Holtrop (U.S. Patent 4,529,641) in view of Breezer (U.S. Patent 5,635,129), Byma (U.S. Patent 6322658), Steward (U.S. Patent 4211590), Haardt (U.S. Patent 5,180,628), Timothy (U.S. Patent 5775726), and Juriga (U.S. Patent 5,549,776).

Claims 4, 6-8, 16-19, 21-22, 26, 28, 31 and 32 are canceled. This leaves claims 2, 3, 5, 9-12, 14, 15, 20, 23-25, 27, 33 and 34. Claims 2, 3, 5, 9-12, 20, 23, 24, 25, 33 and 34 are dependent claims, depending from independent claim 1 or an intervening dependent claim. Claims 14, 15, and 27 are dependent claims, depending from independent claim 13 or an intervening dependent claim.

Claims 2 and 3, teach a thermoplastic composite comprised of polypropylene and glass fibers, where the composite is suitable for fabrication of headliners with head impact cushioning. Holtrop and Juriga both teach a foam product, which is known to have cushioning properties. The utilization of a glass fiber composite is novel, in light of Holtrop and Juriga.

Claim 5 derives novelty from the parent claim, claim 1.

Claim 9 teaches a cover-stock material comprised of felt and fur, among other materials. No reference cites a method employing felt and fur.

Claims 10 and 11 derive novelty from the parent claim, claim 1.

Claim 12 derives novelty from the parent claim, claim 1.

Claim 20 derives novelty from the parent claim, claim 1.

Claims 23 – 25 derive novelty from the parent claim, claim 1.

Claim 33 claims the use of a pre-heat oven in combination with a first oven. The Examiner states that Byma teaches a preheat oven in Fig. 4 and (4:59-63). The Examiner is in error. There is only one oven. While Byma teaches an oven, he does not teach a preheat oven prior to the oven. In view of the limitations of claim 1 and the arguments, claim 33 should be allowed.

Claim 34 claims the use of a pre-heat oven in combination with a first oven. The Examiner states that Byma teaches a preheat oven in Fig. 4 and (4:59-63). The Examiner is in error. There is only one oven. While Byma teaches an oven, he does not teach a preheat oven prior to the oven. In view of the limitations of claim 1 and the arguments, claim 34 should be allowed.

Claims 14, 15, and 27 derive novelty from the parent claim, claim 13.

Claim 29 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Holtrop in view of Byma (USPN 6,322,658 B1), Steward (USPN 4,211,590), Breezer (USPN 5,635,129), Haardt (USPN 5,180,628), Corpe (USPN 5,795,015), Juriga (USPN 5,549,776), Timothy, and Strapazzini (USPN 5,529,742).

Applicant's claim 29, depending from claim 1, differs from Strapazzini in that Strapazzini (2:15-18) teaches “integral portions that are configured to receive or mount exterior parts or trim elements”. Strapazzini does not teach creating a headliner having an interior cavity with “wiring, duct work and reinforcing components, and acoustic enhancing materials”. The rejection is respectfully overcome.

Claim 30 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Holtrop in view of Byma (USPN 6,322,658 B1), Steward (USPN 4,211,590), Breezer (USPN 5,635,129), Haardt (USPN 5,180,628), Timothy (USPN 5,775,726), Juriga (USPN 5,549,776), and Corpe (USPN 5,795,015). Corpe teaches (6:44-49) water jet cutting.

Claim 30 has been amended deleting the reference to water jet cutting. Corpe does not teach secondary punching, laser, knife trimming, and vibration, ultrasonic and hot plate welding. The rejection is respectfully overcome.

Applicant has converted dependent claim 13 to an independent claim. Only two independent claims were present in the original application, so the conversion does not exceed the 3 independent claim fee calculation. Fees for the RCE are enclosed

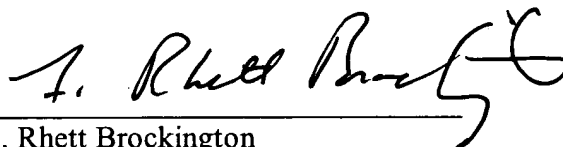
In view of these Remarks and the Amendment filed herewith, the application is now believed to be in condition for allowance and such favorable action is respectfully requested on behalf of the Applicant. The claims 1 and 13 have been amended to include claim language “consisting”, as indicated in the Interview Summary.

CONCLUSION

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned representative at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper (**an RCE is indicated**). However, if such additional fees are required, Examiner is encouraged to notify undersigned at Examiner's earliest convenience.

Respectfully submitted,

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